

EXHIBIT C

Declaration of Dr. Marc Meyers

I, Dr. Marc Meyers, hereby state and declare as follows:

1. I make this declaration pursuant to 28 U.S.C. § 1756. Unless otherwise noted, the statements made herein are of my own first-hand knowledge and, if called upon to testify thereof, I could and would do so competently.

2. I have been asked to evaluate the function of citric acid in Reed's Inc. d/b/a Virgil's Sodas which includes (but not limited to): "Virgil's Root Beer"; and "Virgil's Orange Cream Soda". An example of the Virgil's Root Beer soda is shown in **Exhibit B** of the Complaint.

Expert Qualifications

3. I have been a food scientist for close to 30 years. Food science is the study of food and food ingredient properties and their interactions to develop a safe way of preserving, processing, storing, distributing and packing food products. Applications include all Food and Beverages such as baked goods, soft drinks, confectionery products, meats, dairy, formulated foods and other sweet, savory and beverage applications. Food scientists working in the private sector generally work for food companies in research and development departments that create or modify the company's food products.

4. I have a Doctor of Philosophy degree in Food Science/Food Packaging from Rutgers University (1987), a Masters in Philosophy degree in Food Science from Rutgers University (1985), a Masters of Science degree in Food Science/Food Packaging from Rutgers University (1984) and a Bachelors of Science degree in Food Science from Pennsylvania State University (1981). I am also a Certified Food Scientist as accredited by the Institute of Food Technologists and the International Food Science Certification Commission (Certification #342).

5. During my education, I focused on developing new testing methods for starch enzyme activity and flavor interactions in food packaging, and specifically studies of food additives and ingredients when stored in packaging at normal and accelerated aging.

6. I have over 20 years of industrial experience in assisting food, pharmaceutical and dietary supplement companies in developing new technologies and products for their traditional food products, wellness ingredients and supplements. I have worked for many multinational companies at the Vice President, Director or Senior Manager levels, including Wm. Wrigley Jr. Company, M&M/Mars, Inc., Duncan Hines brand (owned by Pinnacle), Natrol, Inc. (supplements), Dow Chemical (hydrocolloids), Rhodia (now Danisco/DuPont) (texturants and hydrocolloids), Balchem Corp (encapsulation), and Firmenich, Inc. (flavor encapsulation technology). I have initiated, improved or helped launch many products, such as Wrigley's edible film strips; M&M/Mars' heart-healthy aseptic cocoa drinks; Smart Balance/Earth Balance soy milk products; Natrol's Omega Solutions Cardio, Ostea, and Low Glycemic Carb Intercept; Pinnacle Foods' Duncan Hines Oven Ready Frozen Brownie Batter, and Pinnacle's Duncan Hines Whipped Frosting.

7. Specifically, from 1987 to 1990, I worked for Dow Chemical Company in Midland, MI as Senior Development Chemist in Technical Service, developing food applications for METHOCEL food gums (hydrocolloids) and techniques for determining barrier properties of flour-based frying batters.

8. Specifically, I worked in the field of hydrocolloids, at Dow Chemical Company in Midland, MI from 1987 to 1990, and at Rhodia from 1999-2000. I also developed edible films with hydrocolloids at Wm. Wrigley Jr. Company in Chicago, Illinois from 1990 to 1995. Hydrocolloids are substances that gel with water and help to provide stability and texture to

foods, which can be derived from both natural and synthetic sources. They are used in food as thickening agents, whipping agents, emulsifiers, coatings and stabilizers. At Dow, I was a Senior Development Chemist in Technical Service, responsible for developing food applications for METHOCEL food gums and techniques for determining barrier properties of flour-based frying batters. At Wrigley, I worked as Senior Exploratory Food Chemist, inventing new ingredients and ingredient systems (flavors, sweeteners, etc.) for chewing gum, and later as Senior Product Development Chemist, developing new chewing gum products that impart dental benefits to existing and new products.

9. At Rhodia, I also coordinated and communicated efforts of research teams at various research and development ("R&D") centers in North America, Europe, Latin America, and Asia Pacific in developing food texture application projects for the top 20 international food companies. While still with Rhodia, I also served as the Director of Food Technology for North America from 1999 to 2000. In this position, I directed R&D for six food technology labs at two locations in the United States. I also managed 25 scientists and support staff with a \$3.2 million R&D budget and held the administrative responsibility of hiring of Ph.D. level managers, advanced application scientists, and technical staff.

10. I worked for Mars, Inc./Masterfoods USA (formerly M&M/Mars) from 2001 to 2003, in Vernon, California, where I held the position of New Technology Manager for Pet Care and Wellness ingredients. I focused on innovation and development of new pet food technologies to meet consumer insights for companion pets. My daily work required intimate knowledge of how consumers perceive products and understand the messages conveyed through product labeling and marketing.

11. From 2003 to 2004, I gained director-level experience as Vice President for Technology and Product Development of Natrol, Inc., located in Chatsworth, California. I served as a key technical advisor to the CEO, and was also a member of the Senior Executive Management Team that reported to the CEO. I was responsible for developing and executing R&D strategy for new product development, clinical research, and technical services for traditional formats of vitamins, minerals, and supplements.

12. I held the position of Global Product Design Team Manager for Firmenich, Inc. from 2005 to 2006, in Princeton, New Jersey. In that position, I was the American group leader for a group of 5 scientists and flavorists functioning as the global flavor R&D design team that developed applications, new technology, and encapsulated flavor systems for sweet good products.

13. I served as the Director of Product Development for Pinnacle Foods Corporation in Cherry Hill, New Jersey from 2006 to 2007. There, I was the group leader for the Duncan Hines® brand, Log Cabin®, and Mrs. Butterworth's® brand syrups. This job entailed developing new products and technical services for the most profitable brands within the organization and interfacing with the marketing department from concept development through commercialization, ensuring the timely and successful launch of products. I also coordinated development and innovation activities at co-packers and suppliers. As such, I have seen the interactions between company departments in launching a product many times over.

14. From 2009 through the present, I have been an Adjunct Professor of Food Science and Nutrition at Montclair State University, teaching Food and Nutrition courses and labs. In addition, I teach a course at Rutgers University on Nutraceuticals and Functional Foods, and at Drexel University teaching Food Chemistry and a course on Functional Food Science. I have

also been an adjunct faculty member at Hunter College-CUNY in New York City and Mercer County College in New Jersey.

Since 2008 I have been, and I currently am, the Managing Principal Research and Development Consultant of Meyers Consulting, LLC., of Richboro, Pennsylvania (“Meyers Consulting”). In this professional role, I have consulted with or have current consulting agreements with top multinational food, pharma, and dietary supplement companies, such as Johnson & Johnson/McNeil Nutritionals, ConAgra Foods, Kraft Foods Global, Smart Balance/Earth Balance (GFA Brands), DSM, Martek Biosciences, Senomyx, Microbia Precision Engineering, and other new technology and start-up biotech companies in the development and commercialization of new ingredients. I routinely work with web-based organizations such as yourencore.com, ninesigma.com and innocentive.com as part of their Open Innovation communities to assist small domestic to major multi-national Consumer Packaged Goods (“CPG”) companies. My services include developing new technologies in the areas of encapsulation and hydrocolloid applications, and providing Open Innovation New Product Development (“NPD”). I also provide expert witness services in the areas of patent infringement, food, dietary supplements, and flavor industry. From June, 2015 to February 2017, I also worked for Mondelez International while continuing to consult. I was responsible for their global encapsulation R&D for food applications.

Given the range of professional organization I have been involved with as a participant and a Board Member, I have been exposed to a variety of viewpoints throughout the industry and have maintained connections with industry leaders in chemistry generally as well as the narrow field of food science. To start, I have been a member of the Institute of Food Technologists (“IFT”) since 1978 and a Professional Member since 1988. At the IFT, I served as Secretary of

the Chicago chapter from 1991 through 1994, Chair of the Chicago IFT Technical Programs from 1992 through 1993, Secretary of the New York IFT from 1998 through 2001 and Chair of the New York IFT Technical Program during Supplier's Night in 2010. The IFT is an international organization that is recognized for its membership of Food Scientists and had meetings and educational conferences where food ingredients are discussed.

15. I was previously a member of the American Association of Cereal Chemists (AAC), Controlled Release Society (CRS) and American Association of Candy Technologists (AACT). These associations were specific to the food industry and provided opportunities for me to observe how many companies use the technology, ingredients and processes I have used in my career. Moreover, I have been a member of the American Chemical Society (ACS) and Advisory Board Member position at Bioactives World Forum Scientific allow me to remain abreast of the most recent developments in food chemistry and food safety, such as new ingredients and applications coming to the market and how they compare to current ingredients. Additionally, at BioactivesWorld, I am the co-organizer of an annual short-course on microencapsulation in flavors and bioactives as well as hydrocolloids, which covers many different uses of these technologies in food applications. (<http://www.bioactivesworld.com/microencapsulation.html>).

16. I have authored numerous papers, articles and studies. For instance, I was first author on the following works: "Flavor Release and Application in Chewing Gum and Confections" in Microencapsulation in the Food Industry: A Practical Implementation Guide, Chapter 34, pp.443-453, Academic Press/Elsevier San Diego, CA (2014); "Functionality of Hydrocolloids in Batter Coating Systems" in Batter and Breadings in Food Processing 2nd Edition, Chapter 7, pp.117-138, American Association of Cereal Chemists, St. Paul, MN (2011); "Functionality of Hydrocolloids in Batter Coating Systems" in Batter and Breadings in Food

Processing, Chapter 7, pp.117-141, American Association of Cereal Chemists, St. Paul, MN (1990); Book Review of Gums and Stabilizers for the Food Industry 4 in Food Technology, 43(12):130-131 (1989); "Characterization of Radioactive Starch Degradation by Rhizopus Glucoamylase" in Journal of Food Biochemistry, 9(3):231-247 (1985). Thus, my work has been recognized in the industry since the 1980s. I am currently working on another chapter on Food Microencapsulation to be published in 2016.

17. I also have presented papers at technical seminars. For example, in the area of encapsulation technology, I have presented at numerous society meetings including the Controlled Release Society (CRS), IFT, AACC, ACS and Food Ingredients Europe (FIE). I have also presented at an international conference on encapsulation of flavors for confectionery applications in Sion, Switzerland and at the Bioencapsulation Industrial Symposium in San Antonio, TX (http://impascience.eu/bioencapsulation/2011_San_Antonio/) as part of the European Bioencapsulation Group industrial workshop. I was invited to speak at these events based on the quality of my work and contributions to my field.

18. Lastly, I have been awarded 36 patents (19 U.S. patents and 17 foreign patents) in encapsulation technology, edible films, flavor technology, hydrocolloids and novel confectionery applications. A select list of these patents and a more detailed account of my professional accomplishments and expertise are set forth in my current CV, a copy of which is attached to this report as **Exhibit A.**

Citric Acid and it's Function as Preservative

19. Citric acid functions as an antioxidant, sequestrant, and preservative, among its many other properties.^{1,2} These include several mechanisms by which they preserve food and beverages and change their taste.

20. Citric acid is an acidity regulator, acidulant, and flavor enhancer used in food and food ingredients.

21. Citric acid is is a direct antimicrobial.

22. Citric acid is also often used for its preservative effects in finished food products.

23. Some effects of citric acid, such as imparting changes to taste, only take place if there is a sufficient quantity of acid in the product. If the level of acid is too low, the acid will not change the taste or flavor of the product.

24. Citric acid will act as a preservative-- even at levels lower than it's taste threshold. With higher quantities of this acid, these effects will be more pronounced, but they still occur when low levels of citric acid are present. Such effects include: delaying spoilage from bacteria, mold, fungi, and yeast; delaying changes in color, flavor, texture; and delaying browning and rancidity.³ With the use of citric and/or ascorbic acid, these effects can be prevented over the shelf -life of the food product.

¹ The Food additives data book Lists citric acid as an acidulant with the following uses in food:

- Emulsifiers/Stabilisers/Chelating agents/Nutritive additives/**Antioxidants/pH control agents/Preservatives**/Flavor enhancers and modifiers/Solvents/Flour and baking additives/Anti-caking agents/Firming agents/ Glazing and coating agents.
- Both citric and phosphoric acid are also listed separately as sequestrants. Smith, Jim, and Lily Hong-Shum. *Food additives data book*. John Wiley & Sons, 2011. pp. 14, 36, 60, 880, 898.

<https://cetiquimica2.files.wordpress.com>

² "Acids as food additives serve a dual purpose, as acidulants and as preservatives." DeMan, John M. *Principles of food chemistry*. AVI Publishing Co., Inc., 1999, p. 438.

³ Doores, S., 1993. Organic acids. In: Davidson, P.M., Branen, A.L. (Eds.), *Antimicrobials in Foods*. Marcel Dekker, Inc., New York, pp. 95–136.

25. Among other mechanisms, citric acid preserves food by acting as an antimicrobial agent.⁴ This occurs in several ways. One mechanism by which citric acid kills microbes is by reducing the pH of products they are added to. Microorganisms contaminating food generally multiply more slowly or not at all at lower pH levels (higher acidity).^{5,6}

26. Citric acid is a “weak acid,” meaning that a substantial amount of the acid in any acidic solution does not dissociate (i.e., much of the citric acid does not act as an acid in a solution to further reduce pH). To the extent that citric acid does not dissociate while in food or beverages, it is able to more easily penetrate the cell walls of microorganisms. This weakens those organisms directly.^{7,8,9}

27. Citric acid is also a sequestrant, meaning that it can remove some elements and compounds from their environment. The removal of these compounds slows degradation of food and beverages. This acid sequesters metal ions (i.e., act as chelators),^{10,11,12} effectively acting as

<http://base.dnsgb.com.ua/files/book/Agriculture/Foods/Antimicrobials-in-Food.pdf>

⁴ Juvonen, Riikka, et al. Microbiological spoilage and safety risks in non-beer beverages. *VTT Research Notes* 2599 (2011), p. 73.

<http://www.vtt.fi/inf/pdf/tiedotteet/2011/T2599.pdf>

⁵ Doores, S., 1993. Organic acids. In: Davidson, P.M., Branen, A.L. (Eds.), *Antimicrobials in Foods*. Marcel Dekker, Inc., New York, pp. 95–136.

⁶ Nazer, A. I., et al. Combinations of food antimicrobials at low levels to inhibit the growth of *Salmonella* sv. Typhimurium: a synergistic effect?. *Food Microbiology* 22.5 (2005): 391-398.

⁷ Lambert, R. J., and M. Stratford. Weak-acid preservatives: modelling microbial inhibition and response. *Journal of applied microbiology* 86.1 (1999): 157-164.

<http://onlinelibrary.wiley.com/doi/10.1046/j.1365-2672.1999.00646.x/epdf>

⁸ Querol, Amparo, and Graham H. Fleet. *Yeasts in food and beverages*. (2006), pp. 131-32.

⁹ Spray, D. C., and M. V. L. Bennett. Physiology and pharmacology of gap junctions. *Annual review of physiology* 47.1 (1985): 281-303.

¹⁰ *Id.*, p. 359.

¹¹ Downing, Donald L. A complete course in canning and related processes: processing procedures for canned food products. Elsevier, 2013, p. 450.

¹² MARTELL, ARTHUR E. "Chelates of ascorbic acid." 1982. 153-178.

an antioxidant. Sequestration prevents food deterioration by chemical reactions and also retards microbial growth.^{13,14}

28. In its capacity as an antioxidant, citric acid has a preservative effect in food and beverages.

Citric Acid Present in Virgil's Sodas

29. The two products from Virgil's Soda include Virgil's Root Beer (shown in **Exhibit B** of the Complaint) and also Virgil's Orange Cream Soda. Both of these contain citric acid as listed on their label.

30. As shown in both Virgil's Soda products, the use of citric acid could provide some help with the flavor profile (tanginess) as well as controlling growth of microorganisms. Citric acid can serve multiple purposes as an acidifier, as flavoring agent, and as an antioxidant. For example, the citric acid's tang and fruitiness might mimic the citrus in the Virgil's Orange Cream Soda—but also, **the pH-lowering ability of citric acid also functions as an acidulant and therefore as a preservative.** Beverages need low pH to fight microorganisms. The non-citrus flavored Virgil's Root Beer beverage require the same effect without the same fruitiness from pure citric acid, and consequently uses some citric acid at lower levels. The citric acid has pH-reducing preservative effects in addition to any flavor or other effects. Likewise, citric acid can have an antioxidant effect in the Virgil's Soda beverage products.

¹³ DeMan, John M. *Principles of food chemistry*. AVI Publishing Co., Inc., 1999, p. 438. http://drasalehi.iauq.ac.ir/assets/subdomains/drasalehi/file/Principles_of_Food_Chemistry_3rd_Edition_%5B1%5D_pdf_tsid_20070508-081642-18ebeaf.pdf.

¹⁴ Igoe, Robert S. *Dictionary of food ingredients*. Springer Science & Business Media, 2001, p. 167.

31. **Citric acid in the Virgil's Soda beverage products infiltrates and weakens or kills organisms** within both products in the complaint. The citric acid still provides all of these functions, regardless of whether it is mainly being used as a flavorant or for any other purpose—it still functions as a preservative by direct antimicrobial effect, lowers pH, and acts as a sequestrant and indirect antioxidant. Sequestration of metal ions by citric acid indirectly prevents oxidation of the Virgil's Soda beverage products and impedes microbial growth.

Multi-Barrier “Hurdle” Systems of Food Preservation

32. Food scientists consider the cumulative effect of all risks to the integrity of food. The best practice when designing production systems is to impose many “hurdles” to degradation.^{15,16} For example, a food manufacturing process might simultaneously use a safeguard against contamination by microbial spores. This could include various heat processing methods such as hot-fill or aseptic processing; and use of hermetic sealing of the bottles, etc. as well as other mechanisms to reduce the fecundity of any spores already within the food. This would include the use of an acid such as citric acid to reduce pH. When more than one method or ingredient has a preservative effect, each is a “preservative” because it acts as an obstacle to food degradation.^{17,18}

¹⁷ Leistner, L. Hurdle technology applied to meat products of the shelf stable product and intermediate moisture food types. *Properties of water in foods*. Springer Netherlands, 1985. 309-329.

¹⁸ Leistner, Lothar. Basic aspects of food preservation by hurdle technology. *International journal of food microbiology* 55.1 (2000): 181-186.

¹⁹ Bae, Y- M., and S- Y. Lee. "Combined effects of organic acids and salt depending on type of acids and pathogens in laboratory media and acidified pickle." *Journal of applied microbiology* 119.2 (2015): 455-464, p. 455-56.

²⁰ Biesta-Peters, Elisabeth G., et al. Comparing nonsynergistic gamma models with interaction models to predict growth of emetic *Bacillus cereus* when using combinations of pH and individual undissociated acids as growth-limiting factors. *Applied and environmental microbiology* 76.17 (2010): 5791-5801.
https://www.researchgate.net/profile/Marcel_Zwietering/publication/45271734_Comparing_Non_synergistic_Gamma_Models_with_Interaction_Models_To_Predict_Growth_of_Emetic_Bacillu

33. In the case of the Virgil's Sodas beverage products, citric acid must be considered a preservative under food design standards-- even if flavor was a consideration when they were included. This is because they have the effect of protecting the products from spoilage and staleness, and the potential hurdles attendant to the use of those ingredients is always a consideration in food design and manufacturing. Likewise, citric acid must be considered preservatives against microorganisms even if the type of heat processing and seal on the products is designed to keep out microorganisms or if other factors also work to retard spoilage.

Conclusion

34. In summary, it is clear that citric acid acts as a preservative in both Virgil's Soda beverage products in this complaint. It acts as a pH-reducer, antioxidant, and antimicrobial agent beyond just being used for tanginess and flavor effects.

35. Additional reference information I reviewed to support this conclusion can be found in Exhibit A and C of the complaint as well as the following online sources:

<http://legalnewsline.com/stories/511063295-nestle-usa-to-vigorously-defend-itself-against-baseless-deceptive-marketing-allegations>

- According to the FDA website, citric acid is listed in the category of preservatives used to “prevent food spoilage from bacteria, molds, fungi or yeast” and slows and “prevents changes in color, flavor, or texture”.

<http://onlinelibrary.wiley.com/doi/10.1111/j.1541-4337.2006.00009.x/full>

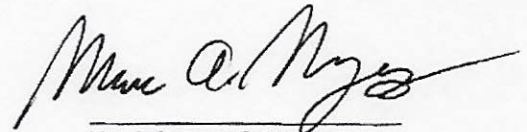
- There are several mechanisms by which citric acid preserves food and beverages, some of which apply to almost any. Most food and beverages are acidic, and one way that citric acid preserves food is by making them

[s_cereus_when_Using_Combinations_of_pH_and_Individual_Undissociated_Acids_as_Growth-Limiting_Factors/links/02e7e51e3d02ef2a1f000000/Comparing-Nonsynergistic-Gamma-Models-with-Interaction-Models-To-Predict-Growth-of-Emetic-Bacillus-cereus-when-Using-Combinations-of-pH-and-Individual-Undissociated-Acids-as-Growth-Limiting-Factors.pdf](#)

more acidic. Even if a food is alkaline (i.e., has a pH above 7.0, which denotes very low acidity), citric acid may still act as a preservative and can still affect the delay of browning and rancidity, even in lower or trace amounts.

I declare under penalty of perjury of the laws of the United States of America that the foregoing is true and correct.

Executed on December 9, 2018 in Richboro, PA.


Dr. Marc A. Meyers

MARC A. MEYERS, Ph.D.
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EDUCATION

Ph.D. Rutgers University, Food Science/Food Packaging, 1987

M.Phil. Rutgers University, Food Science. 1985

M.S. Rutgers University, Food Science/Food Biotechnology, 1984

B.S. Pennsylvania State University, Food Science, 1981

Teaching Assistant, Food Science and Technology, 1981-1987

ACADEMIC EXPERIENCE

2009-current **Adjunct Professor of Food Science**, Nutrition and Food Science
Montclair State University, Upper Montclair, New Jersey

2010-current **Adjunct Food Science Instructor**, Food Science
Rutgers University, New Brunswick, New Jersey. Similar roles at
Drexel University, Philadelphia, PA, Hunter College-CUNY, New York, NY and
Mercer County College, West Windsor, NJ

PROFESSIONAL EXPERIENCE

2008-Present **Meyers Consulting, LLC**, Richboro, PA (www.Meyers-Consulting.com)
Managing Principal R&D Consultant. Consulting with top multinational food/pharma/dietary supplement companies in developing new technologies, encapsulation, hydrocolloids and Open Innovation NPD. Focus areas include: new product development for wellness ingredients/supplements, sweet goods, flavors, baked goods, confectionery and chewing gum businesses.

2006-2007 **Pinnacle Foods Corporation**, Cherry Hill, New Jersey
Director – Product Development. Group leader for Duncan Hines® brand (cakes, brownies and frostings), Log Cabin® and Mrs. Butterworth's® brand syrups. Led group of 4 developers in development of new products and technical services for most profitable brands within organization. Coordinated development and innovated activities at co-packers and suppliers. Interfaced with Marketing from concept development through commercialization, ensuring timely and successful launch of products.

- 2005-2006 **Firmenich, Inc.**, Princeton, New Jersey. Global Product Design Team Manager. North American group leader for global flavor R&D design team. Developed applications, new technology and encapsulated flavor systems for sweet good products. Responsible for a group of 5 scientists and flavorists.
- 2003-2004 **Natrol, Inc.**, Chatsworth, California. Vice President, Technology and Product Development. Member of Senior Executive Management Team reporting to CEO. Key technical advisor to CEO. Responsible for development and execution of R&D strategy for New Product Development, Clinical Research and Technical Services for traditional formats of Vitamin/Mineral/Supplements.
- 2001-2003 **Mars, Inc. /Masterfoods USA (formerly M&M/Mars)**, Vernon, California. New Technology Manager (Pet Care and Wellness ingredients) Initial activities in Pet Care products area focused on innovation and development of new pet food technologies to meet consumer insights for companion pets.
- 1998-2001 **Rhodia Food Ingredients (formerly Rhone-Poulenc)**, Cranbury, New Jersey. Global Director, Innovation & Development - Texture (98 -01). Developed programs in new technologies and new ingredients for texturing applications worldwide. Coordinated and communicated efforts of research teams at various R&D Centers in North America, Europe, Latin America and Asia Pacific, developing food texture application projects for Top 20 International food companies.
- Director of Food Technology, North America (99 -00). Directed R&D function for six food technology labs at two U.S. locations. Managed 25 scientists and support staff with \$3.2 million R&D budget. Administrative responsibility and hiring of Ph.D. level managers, advanced application scientists and technical staff.
- 1995-1998 **Balchem Corporation**, Slate Hill, New York. Commercial Research Director. Directed group of research scientists and technicians in developing encapsulation prototypes, commercial products and product improvements primarily for bakery, meat, confectionery and animal feed industries.
- 1990-1995 **Wm. Wrigley Jr. Company**, Chicago, Illinois. Senior Product Development Chemist (1993–1995). Developed new chewing gum products that impart dental benefits to current and new products.
- Senior Exploratory Food Chemist (1990–1993). Invented new ingredients and ingredient systems (flavors, sweeteners, etc.) for chewing gum.
- 1987-1990 **Dow Chemical Company**, Midland, MI. Senior Development Chemist Technical Service and Development of food applications for METHOCEL food gums (hydrocolloids). Developed techniques for determining barrier properties of flour-based frying batters.

SELECTED PUBLICATIONS

- Meyers, M.A. and Grazela, A (2011). "Functionality of Hydrocolloids in Batter Coating Systems". In Batter and Breadings in Food Processing. 2nd Edition. Chapter 7, pp.117 - 138. American Association of Cereal Chemists, St. Paul, MN.
- Meyers, M.A. (1990). "Functionality of Hydrocolloids in Batter Coating Systems". In Batter and Breadings in Food Processing. Chapter 7, pp.117 - 141. American Association of Cereal Chemists, St. Paul, MN.
- Meyers, M.A (1989). Book Review of Gums and Stabilizers for the Food Industry 4. In Food Technology. 43(12):130 - 131.
- Halek, G.W. and Meyers, M.A. (1989). "Comparative Sorption of Citrus Flavor Compounds by Low Density Polyethylene". Packaging Technology and Science. 2:141 - 146.
- Meyers, M.A. and Wasserman, B.P. (1985). "Characterization of Radioactive Starch Degradation by Rhizopus Glucoamylase". Journal of Food Biochemistry. 9(3):231 - 247.

SELECTED PAPERS PRESENTED

- Meyers, M.A. (2011). Microencapsulation for Omega-3 Oils – DOs and DONTs. Omega-3 Platform 2011- 9th Practical Short Course on Functional Oils: Market, Regulations, Science, Sensory and Technical Issues for Food and Dietary Supplement Applications, Paris, France December 2, 2011(to be presented). Also presented at 8th Practical Short-Course in Newport Beach, CA on August 18, 2011.
- Meyers, M.A.(2011).Application of Flavor Encapsulation in Chewing Gum. 3rd Annual Industrial Workshop on Microencapsulation of Flavors and Bioactives for Functional Food Applications. Minneapolis, MN September 15, 2011. Also presented in 2009 and 2010 and Sept., 2012 (also Short-Course Organizer).
- Meyers, M.A. (2011). Case Study I: Longer-Lasting Flavor Release in Chewing Gum. Institute Of Food Technologists (IFT) Pre-Annual Meeting Short-Course on Microencapsulation in Food Applications, New Orleans, LA. June 11, 2011.
- Meyers, M.A. (2011). Application of Flavor Encapsulation in Chewing Gum". New York IFT Supplier's Day Technical Seminar on Improving Food Using

Encapsulation Technology, Somerset, NJ. May 11, 2011.

Meyers, M.A. (2011). Improving Food Using Encapsulated Ingredients". Bioencapsulation Research Group 14th Industrial Symposium on Microencapsulation, San Antonio, TX. March 8, 2011.

Meyers, M.A.(2008). Application of Microencapsulated Flavors in Chewing Gum". Bioencapsulation Research Group Industrial Workshop on Microencapsulation of Flavors, Sion, Switzerland. January 16, 2008.

SELECTED AWARDED PATENTS

Reed, M.A., Richey, L.C., Hook, J.S., Yotka, R.J., Tyrpin, H.T., Broderick, K.B. and Meyers, M.A. 1997. Polyol coated chewing gum having improved shelf life and method of making. U.S. Patent Number 5,665,406.

Reed, M.A., Gudas, V.V., Mazurek, P.M., Chapdelaine, A.H., Yotka, R.J., Richey, L.C. and Meyers, M.A. 1997. Syrups containing sorbitol, a plasticizing agent and an anticrystallization agent and their use in chewing gum and other products. U.S. Patent Number 5,651,936.

Yotka, R.J., Richey, L.C., Meyers, M.A. and Witkewitz, D.L. 1997. Chewing gum containing maltitol. U.S. Patent Number 5,637,334.

Yotka, R.J., Richey, L.C., Meyers, M.A. and Barkalow, D.G. 1997. Chewing gums containing natural carbohydrate gum hydrolyzate. U.S. Patent Number 5,612,070.

Tyrpin, H.T., Broderick, K.B., Meyers, M.A. and Yotka, R.J. 1997. Chewing gum pellet coated with a hard coating containing erythritol. U.S. Patent Number 5,603,970.

Yotka, R.J., Richey, L.C. and Meyers, M.A. 1996. Chewing gum products using polydextrose. U.S. Patent Number 5,525,360.

Meyers, M.A., Patel, M.M., Russell, M.P. and Record, D.W. 1996. Chewing gum containing low levels of maltodextrin. U.S. Patent Number 5,518,739.

Grey, R.T., Patel, M.M., Dubina, E. and Meyers, M.A.. 1995. Chewing gum containing a lecithin/glycerol triacetate blend. U.S. Patent Number 5,474,787.

Yotka, R.J., Richey, L.C., Meyers, M.A., Broderick, K.J. and Record, D.W. 1995. Chewing gum and other comestibles containing indigestible dextrin. U.S. Patent Number 5,458,892.

Meyers, M.A., Campbell, A.A. and Muhammad, J.R. 1995. Chewing gum products using calcium sulfate. U.S. Patent Number 5,441,749.

Meyers, M.A. 1995. Chewing gum including agent containing edible film. U.S. Patent Number 5,433,960.

Yatka, R.J., Richey, L.C. and Meyers, M.A. 1995. Chewing gum products using oligofructose. U.S. Patent Number 5,431,929.

Yatka, R.J., Richey, L.C. and Meyers, M.A. 1995. Chewing gum products using fructooligosaccharides. U.S. Patent Number 5,425,961.

Meyers, M.A. 1995. Use of edible film to prolong chewing gum shelf life. U.S. Patent Number 5,409,715.

Meyers, M.A. 1994. Use of edible film to improve the packaging of chewing gum. U.S. Patent Number 5,376,388.

Meyers, M.A. 1994. Use of edible film to prolong chewing gum shelf life. U.S. Patent Number 5,286,502.

Meyers, M.A. and Record, D.W. 1993. Chewing gum and other comestibles containing purified indigestible dextrin. U.S. Patent Number 5,236,719.

Patel, M.M., Broderick, K.B., Meyers, Schnell, P.G., Song, J.H., Yatka, R.J. and Zibell, S.E. 1993. Strongly mint-flavored chewing gums with reduced bitterness and harshness. U.S. Patent Number 5,192,563.

Yatka, R.J., Broderick, K.B., Song, J.H., Zibell, S.E., Meyers, M.A. and Campbell, A.A. 1992. Polyvinyl acetate encapsulation of codried sucralose for use in chewing gum. U.S. Patent Number 5,139,798.

Meyers, M.A. and Conklin, J.R. 1990. A Method of Inhibition of Oil Absorption in Coated Fried Foods Using Hydroxypropyl Methylcellulose. U.S. Patent Number 4,900,573.

MEMBERSHIPS IN PROFESSIONAL SOCIETIES

1978-Present Institute of Food Technologists:

2010 Chair of New York IFT Technical Program during Supplier's Night
Secretary, NYIFT

1992-1993 Chair of Chicago IFT Technical Programs

1991-1994 Secretary, Chicago IFT

1988-Present Professional Member

2008 –Present American Chemical Society (ACS)

Prior memberships with American Association of Cereal Chemists (AAC), Controlled Release Society (CRS) and American Association of Candy Technologists (AACT).

ADDITIONAL PROFESSIONAL ACTIVITIES

2009-Present Bioactives World Forum Scientific Advisory Board Member. Also short-course organizer for a number of technical programs (www.bioactivesworld.com).

List of Prior Expert Witness Cases

I have been an expert witness for about 4.5 years and have worked on approximately 13 different cases for both the defendant and the plaintiff; as well as class-action lawsuits.

I was prepared to be deposed once but the parties settled before my deposition date. Most of my expert witness work has been reviewing patents and formulations for IP and patent infringement cases, developing Declaration Statements for the Food, Dietary Supplement and Flavor industries; and Class Action Law Suits. To keep the specifics confidential, I am only providing which cases available in the public domain:

1. Kristin Wells, etc. vs. Abbott Laboratories, Inc, et al. LASC Case # BC389753
 2. UNITED STATES DISTRICT COURT CENTRAL DISTRICT OF CALIFORNIA
NICOLE FORLENZA and SHAIDEN MONROE, individually and on behalf of all
others similarly situated, Plaintiffs, vs. DYNAKOR PHARMACAL, LLC, a Utah limited
liability company; THE CARTERREED COMPANY, LLC, an entity of unknown origin;
PC MGMT, INC., an entity of unknown origin; BASIC RESEARCH, LLC, a Utah
limited liability Case No. CV09-3730 MMM (SSx)
 3. U.S. District Court District of New Jersey (Newark)
CIVIL DOCKET FOR CASE #: 2:09-cv-00177-JLL-CCC
EVERETT LABORATORIES, INC. v. BRECKENRIDGE PHARMACEUTICAL, INC.
 4. EVERETT LABORATORIES, INC. Defendant: RIVER'S EDGE
PHARMACEUTICALS, LLC. Case Number: 2:2009cv03458 Filed: July 14, 2009 Court:
New Jersey District Court
 5. *Scheuerman, et al. v. Nestlé Healthcare Nutrition et al.*, No. 2:10-CV-3684
(FSH) (PS) (the "Scheuerman Action"), and *Maria Johnson, et al. v. Nestlé
Healthcare Nutrition, Inc.*, No. 2:10-CV-5628 (FSH) (PS)
- 1.

6. SOMA LABS, INC., v. [MANAVKUMAR G. SHAH, VITACARE, PHARMA, LLC f/k/a VITACARE LABS, LLC). SUPERIOR COURT OF NEW JERSEY, CHANCERY DIVISION: MIDDLESEX COUNTY DOCKET NO. C-114-13. I was deposed by opposing counsel and went to a bench trial for this case.(2016)
7. DALMATIA IMPORT GROUP, INC. v. FOODMATCH, INC. et al. UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF PENNSYLVANIA, CASE No. 2:16-cv-02767-EGS. I was deposed by opposing counsel and went to a jury trial for this case.(2017)

Law firms previously retained by:

A. 2 cases with WCCE

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**B. 5-6 cases with Call, Jensen & Ferrell—Scott Ferrell (new email address:
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C. 2-3 cases with Sheppard Mullin:

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